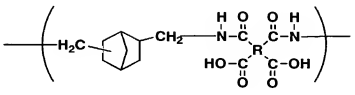
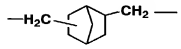
ABSTRACT

Disclosed are a polyamic acid having repeating units represented by the formula (1):

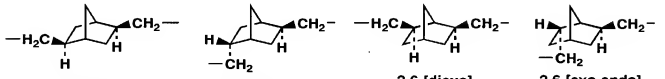


(1)

wherein the norbornane skeleton of



comprises four components of



and their contents satisfy the following:

$1\ \% \leq 2,5\text{-[diexo]} \leq 90\ \%$,

$1\ \% \leq 2,5\text{-[exo,endo]} \leq 90\ \%$,

$1\ \% \leq 2,6\text{-[diexo]} \leq 90\ \%$,

$1\ \% \leq 2,6\text{-[exo,endo]} \leq 90\ \%$,

provided that

(2,5-[diexo]) + (2,5-[exo,endo]) + (2,6-[diexo]) + (2,6-[exo,endo]) = 100 %,

R represents from 4 to 27 carbon atoms, and represents a tetravalent group selected from the group consisting of an aliphatic group, a monocyclic aliphatic group, a condensed polycyclic aliphatic group, a monocyclic

aromatic group, a condensed polycyclic aromatic group, and a non-condensed polycyclic aliphatic or aromatic group which is composed of cycloaliphatic or aromatic groups mutually bonded to each other either directly or via a crosslinking member; and a polyimide which is obtained by imidizing the polyamic acid and which has good properties intrinsic to polyimides, or that is, thermal resistance, mechanical properties, slidability, low water absorption, electric properties and radiation resistance intrinsic thereto. By varying the composition ratio of the starting diamine isomers, various polyimides having controlled thermal resistance, melt flowability, optical properties, chemical resistance and electric properties and capable of forming films of various forms can be obtained.